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PATENT APPLICATION
Docket No.: NYU93-01M4

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Junming Le, Jan Vilcek, Peter Daddona, John Ghrayeb, David M. Knight and Scott Siegel

Serial No.: 08/324,799 Group: 1806

Filed: October 18, 1994 Examiner: John Lucas

For: Anti-TNF Antibodies and Peptides of Human Tumor Necrosis Factor

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to Assistant Commissioner for Patents and Trademarks, Washington, DC 20231.

on 3-14-97 (Date) Charlene M. Caruso (Signature)

Charlene M. Caruso
Typed or printed name of person signing certificate

AMENDMENT

Assistant Commissioner for Patents and Trademarks
Washington, DC 20231

Sir:

This Amendment is filed in response to the Office Action mailed from the Patent and Trademark Office on September 18, 1996. Also being filed concurrently herewith are a Transmittal of Formal Drawings, and a Petition for Extension of Time of three months with authorization to charge the fee to Attorney's Deposit Account No. 08-0380 in the amount of $930.00.

Title

The title of the invention has been amended to be more clearly indicative of the invention to which the elected claims are directed, as requested by the Examiner.

Objection to the Specification and Rejection of Claims 73, 75 and 77 Under 35 U.S.C. §112, First Paragraph

The Specification is objected to and Claims 73, 75 and 77 are rejected for failing to provide an enabling disclosure and failing to provide an adequate description of the claimed invention absent a deposit of the hybridomas or cell lines expressing the A2 and cA2 antibodies.

The Examiner believes that it is unclear that one of skill in the art could derive a monoclonal antibody identical to the cA2 antibody claimed because the sequence of the heavy chain variable region of the cA2 monoclonal antibody is not disclosed in the Specification.

Claim 73 has been cancelled and Claim 75 has been amended to recite treatment with an anti-TNF antibody which inhibits binding of TNF to cA2.

Applicants have amended an inadvertent error in the Specification to clarify that Figure 17B (renumbered Figure 16B after amendment) is a nucleic acid sequence (SEQ ID NO.: 4) and corresponding amino acid sequence (SEQ ID NO.: 5) of the heavy chain variable region of the cA2 monoclonal antibody. Since the sequence of the heavy chain variable region of the cA2 monoclonal antibody is disclosed, the claimed invention is enabled by the Specification and a deposit is not required.

Furthermore, in addition to disclosing the heavy and light chain variable sequences, Applicants have sufficiently disclosed the methods of production of chimeric anti-TNF antibodies which would be chemically and structurally similar to those claimed. Applicants' 176-page Specification provides ample instruction to

one of skill in the art on how to produce and select antibodies for use in the claimed invention. See, for example, Examples I-X on page 82, line 6 through page 95, line 10.

"No deposit is necessary if the biological organisms can be obtained from readily available sources or derived from readily available starting materials through routine screening that does not require undue experimentation." In re Wands, 8 U.S.P.Q.2d 1400, 1403 (Fed. Cir. 1988). Since the Specification provides significant description of the properties (e.g., glycosylation, epitopic specificity and affinity) of the chimeric anti-TNF antibodies, the screening of antibodies which have the same or similar properties does not require undue experimentation. As such, no deposit is required. Please note that, to the best of knowledge of the undersigned, neither the c134A nor the c168A cell line has been deposited in the ATCC collection.

Withdrawal of the rejection of Claims 75, and 77 and withdrawal of the objection to the Specification are respectfully requested.

Rejection of Claims 71-77 Under 35 U.S.C. § 103

Claims 71-77 are rejected under 35 U.S.C. § 103 as being unpatentable over Brennan et al. (Lancet, 2(8657):244-247, 1989) in view of Möller et al. (U.S. Patent No. 5,231,024 or Cytokine, 2(3):162-169, 1990) or Rathjen et al. (WO 91/02078) and Morrison (Science, 225:1202-1207, 1985).

Obviousness under 35 U.S.C. § 103 is a question of law based on the factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 U.S.P.Q. 459, 467 (1966):

> Under 103, the scope and content of the prior art are to be determined; differences between the pertinent art and the claims at issue are to be ascertained; and the level of ordinary skill in the prior art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. Such